Technological Forecasting & Social Change 168 (2021) 120748

Contents lists available at ScienceDirect

Technological Forecasting & Social Change

journal homepage: www.elsevier.com/locate/techfore

Attracting the entrepreneurial potential: A multilevel institutional approach

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ARTICLE INFO

JEL codes:
L26
M13

Keywords:
Entrepreneurial potential
Entrepreneurship
Informal institutions
Institutional theory
Multi-level analysis

ABSTRACT

The research on institutions' role in entrepreneurship acknowledges that formal and informal institutions matter. However, previous research has stressed less the co-existence and interaction between individual- and country-level factors that shape entrepreneurial potential, population of skillful individuals with no entrepreneurial intentions, across countries. In this study, we investigate the multilevel influence of informal institutions on entrepreneurial potential. Drawing from institutional theory and multilevel approach in a sample of 880,576 individuals for the period 2006–2016, we find that the informal country-level institutional forces compensate the lack of individual-level factors among those with low entrepreneurial potential. For instance, media coverage on entrepreneurship or education can enhance the entrepreneurial potential in its lower end. Hence, our findings provide novel evidence on the relevance and interaction of the informal institutions, and how they increase the entrepreneurial potential across countries. Our findings suggest policy implications regarding educational programs to close the gap between entrepreneurially skilled non-potential and skilled potential individuals.

1. Introduction

Scholarly interest in the role of institutions in entrepreneurship has increased over recent years. Research documents the role that country-level institutional arrangements play in new venture creation (Aldrich and Fiol, 1994; Aparicio et al., 2016; Dilli et al., 2018; Stephan and Uhlaner, 2010), economic activity in general (De Soto, 1989; Easterly, 2009), and in various outcomes of entrepreneurial activities (Stenholm et al., 2013; Su et al., 2017; Terjesen et al., 2016). Similarly, the variation in entrepreneurial activity across countries is shaped by the institutional context under which entrepreneurs operate (Aldrich, 2011; Klapper et al., 2006; Wennekers and Thurik, 1999).

At the country-level, however, fostering entrepreneurship is designed and implemented strategies ranging from entrepreneurship policies aimed at defeating market failures (Acs et al., 2014; Dilli et al., 2018) and translating inventions to innovations (Ratinho et al., 2020) to strategies to support entrepreneurship education and the development of entrepreneurial skills (Martin et al., 2013; Walter and Block, 2016). Although individuals take into consideration different aspects to follow either an entrepreneurial or employee pathway (Millán et al., 2013), recent research implies that individuals with perceived skills for launching a business are more prone to engage in entrepreneurship (Kautonen et al., 2015; Kautonen et al., 2013) than individuals on average. Accordingly, previous research shows that even slightly enhanced perceptions of entrepreneurial skills develop entrepreneurial intentions (Bae et al., 2014; Liñán et al., 2011; Renko et al., 2020). For instance, entrepreneurship education enriches participants' perceptions of the desirability and feasibility of entrepreneurship (Peterman and Kennedy, 2003), and as entrepreneurship education programs have widely spread across countries, one may assume that an increasing number of individuals have skills and knowledge about entrepreneurship (Klofsten et al., 2019). However, as Oosterbeek, van Praag, and Ijsselstein (2010) and Shirokova, Osiyevskyy, and Bogatyreva (2016) have found, these skills do not necessarily translate into new entrepreneurs and businesses. Still, the programs produce entrepreneurial potential, but the question of how to bring out more of it remains unanswered.

Krueger (2020) and Krueger and Brazeal (1994) suggest that both

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https://doi.org/10.1016/j.techfore.2021.120748
Received 23 June 2020; Received in revised form 13 January 2021; Accepted 10 March 2021
Available online 25 March 2021

entrepreneurial potential and potential entrepreneurs coexist in countries, which creates an appropriate environment for entrepreneurship and business dynamics. In fact, Krueger (2020) exemplifies this distinction by recalling how countries implement entrepreneurship education as a transversal axis across all disciplines, which is why people are equipped with entrepreneurial skills (i.e. entrepreneurial potential), but only a few of them manifest the wish for moving forward entrepreneurial projects (i.e. entrepreneurial intentions). This suggests that different levels (i.e. countries, communities, and individuals) matter when entrepreneurial potential and entrepreneurial intentions are analyzed (Krueger, 2020; Krueger and Brazeal, 1994). For example, the extant literature emphasizes the relevance of the institutional context to explain individuals' entrepreneurial intentions (Dheer and Lenartowicz, 2018; Shinnar et al., 2012), but as Shirokova, Osiyevskyy, and Bogatyreva (2016) claim, further analysis is required to understand why individuals across countries, despite of having perceived entrepreneurial skills, do not prefer an entrepreneurial career. Building on this, we are curious on whether and how informal institutions enhance entrepreneurial potential across countries.

Hence, we investigate the multilevel influence of informal institutions on entrepreneurial potential. To this purpose, we use institutional economics (North, 1990; North, 2005) as a framework to propose hypotheses on the role of informal individual- and country-level institutional arrangements in entrepreneurial potential. We define entrepreneurial potential as the non-entrepreneurs who perceive that they have necessary skills to engage in entrepreneurship. Krueger and Brazeal (1994) define entrepreneurial potential (i.e. "the potential for increasing entrepreneurial activity") through the fact that some societies can behave entrepreneurially without referring to particular entrepreneurs. Altogether, perceptual assumptions on individuals' skills are positively associated with the level of new business start-ups (Arenius and Minniti, 2005; Arin et al., 2015; Dilli et al., 2018). Consequently, we assume that perceived self-efficacy is a key feature in defining entrepreneurial potential. Krueger and Brazeal (1994) also recognized that more entrepreneurial societies can increase the entrepreneurial intentions among the population since "'entrepreneurial potential' requires 'potential entrepreneurs'" (Krueger and Brazeal, 1994, p. 90). Hence, a better understanding about the entrepreneurial potential's antecedents benefits the efforts to nudge the entrepreneurial potential towards entrepreneurial careers.

Our focus is on informal institutions, social norms, and cognitive scripts, which set the way humans behave (Bruton et al., 2010). In this sense, Stephan and Uhlaner (2010), Tang (2008), Urbano, Aparicio, and Audretsch (2019), and Zhai, Su, Ye, and Xu (2019) suggest further exploration on variables that capture role models, fear of failing, environmental munificence, and social desirability of entrepreneurship at different levels (i.e. individual- and country-level). Hence, by investigating the informal institutional arrangements' role in entrepreneurial potential, we extend the less addressed understanding of its determinants. Similar to recent studies in entrepreneurship research (cf. Audretsch et al., 2019; Schmutzler et al., 2019), we use a multilevel approach on a sample of 880,576 individuals from 77 countries in the period 2006–2016 to empirically assess our ideas. This empirical strategy enables us to study how the multilevel socialization process influences the entrepreneurial potential. In this regard, all the adult population in our sample is characterized by having entrepreneurial and business skills (Krueger, 2020; Krueger and Brazeal, 1994).

Although our configuration might create selection biases, we assume that entrepreneurship education and experience are rapidly growing at all levels (Von Graevenitz et al., 2010; Walter and Block, 2016; Zhao et al., 2005). Under this assumption, our study generates different contributions. First, our findings suggest that the informal country-level institutional arrangements, such as media coverage and aggregated entrepreneurial alertness, increase entrepreneurial potential across countries. This extends the current research on the formal support given for entrepreneurs (Ratinho et al., 2020), and highlights the importance of building a supportive cultural and institutional capital to enhance the value and recognition of entrepreneurship (Krueger et al., 2013; Lounsbury and Glynn, 2001), and even the realization of entrepreneurial potential (Bogatyreva et al., 2019). Second, similar to the extant literature in entrepreneurial intentions (Bosma et al., 2012; Schmutzler et al., 2019), we find that informal individual-level institutional arrangements, such as having role models, enhance the entrepreneurial potential. For instance, role models, through imitation and model learning (Fornahl, 2003), direct individuals toward entrepreneurial behavior (Wyrwich et al., 2016). Our findings show that the same pattern exists for entrepreneurial potential. Moreover, our findings suggest that another informal institutional aspect, fear of failure, hinders the entrepreneurial potential through its many forms (Bylund and McCaffrey, 2017). Hence, our study extends previous research by investigating the "top notch" non-entrepreneurial individuals, who are on the verge of starting a business, but have not yet done so.

Finally, our findings of the multilevel analyses show how country-level informal institutional factors positively moderate the individual-level factors' relationship with entrepreneurial potential. Media coverage on entrepreneurship and entrepreneurial alertness support entrepreneurial potential among individuals, who lack informal individual-level determinants of entrepreneurial potential. This suggests that the specified country-level approaches on entrepreneurship can compensate the variation in individuals' skills and enhance the entrepreneurial potential. Hence, our findings provide novel evidence on the relevance of the multilevel informal institutional arrangements for potential entrepreneurs and entrepreneurial potential (Krueger, 2020; Krueger and Brazeal, 1994).

Our study proceeds as follows. The next section focuses on the theoretical background of the hypothesized mechanisms through which informal individual- and country-level institutional arrangements enhance entrepreneurial potential. Then, we describe data, variables, and methods, which we employ in testing our hypotheses. Afterwards, we present and discuss our results and conclude our study.

2. Theoretical background and hypothesis development

2.1. Institutional economics, entrepreneurial behavior, and entrepreneurial potential

North (1990) defines institutions as having formal and informal rules that guide and govern human decisions and behavior. Scholarly field addresses that institutions shape and regulate individuals' incentives to turn perceived opportunities into entrepreneurial actions (Aparicio et al., 2016; Estrin et al., 2013; Stenholm et al., 2013; Stephan and Uhlaner, 2010; Su et al., 2017; Terjesen et al., 2016; Welter and Baker, 2020).

In this study we focus on informal institutions, such as culture, social norms, conventions, and cognitive scripts, which are not directly backed by any formal law, but which still guide human behavior (Boettke and Coyne, 2009; Bruton et al., 2010). Informal institutions are deeply embedded in society and imprinted in human behavior, and hence, their change is extremely slow and gradual (North, 1990; Williamson, 2000). Moreover, informal institutional arrangements are transferred from generation to another (North, 1990). Urbano, Aparicio, and Audretsch (2019) and Zhai, Su, Ye, and Xu (2019) found that the informal factors are more influential for entrepreneurship than legal rules. For instance, as an institutional force culture (Hechavarria and Reynolds, 2009) offers descriptive norms for human behavior (Stephan and Uhlaner, 2010) or creates different perceptions about fear of failure (Wennberg et al., 2013). Thereby, culture influences the level of entrepreneurship across countries. Moreover, Stenholm, Acs, and Wuebker (2013) and Stephan, Uhlaner, and Stride (2015) emphasize the governmental institutional support at the country- or regional-level. These findings imply that the informal institutional arrangements have a multilevel—delivered through individual- and country-levels—influence on entrepreneurship.

Findings on the role of informal institutions often address entrepreneurial intent, not entrepreneurial potential, which temporally precedes the possible entrepreneurial intentions (Krueger and Brazeal, 1994). Acknowledging Schmutzler et al.'s (2019) findings, we seek to unfold the role informal institutions have in entrepreneurial potential. In the search of the informal institutional determinants of entrepreneurial potential, we need to pursue a multilevel approach that combines individual- and country-level lenses of institutional theory. This sheds light on possible existing patterns through which otherwise entrepreneurially capable individuals remain non-entrepreneurial.

2.2. Informal individual-level institutional determinants: Role models

The idea of "if he can do it, I can do it" (van der Sijde and van Tilburg, 1998, p. 298) may guide human behavior towards entrepreneurship, and even shape the perceived norms. Role models can deliver guidance and support (Gächter and Renner, 2018), and they can influence individuals' career choices (Buunk et al., 2007). Having a role model may lead to imitation and model learning (Fornahl, 2003), which can adjust the entrepreneurial potential among individuals. Empirical assessments suggest that having a role model significantly and positively influences individuals' career choices (BarNir et al., 2011; Bosma et al., 2012; Urbano et al., 2017), and role models also enhance perceived behavioral control (or self-efficacy) (Entrialgo and Iglesias, 2017). Role models can break the barriers set by gendered career expectations (Welter, 2011), and provide an efficient and significant part of entrepreneurial support (Ratinho et al., 2020). Previous research has already emphasized the positive influence of role models on entrepreneurial intentions (Bosma et al., 2012). Moreover, the strength of role models' social ties—the support from personal networks, parents, and friends (Chlosta et al., 2012; Hoffman et al., 2015; Scherer et al., 1989)—can increase the entrepreneurial potential. These strong ties seem to enhance individuals' entrepreneurial confidence (Aldrich, 1999) and self-efficacy (Baron, 2000), and support the perceptions of one's entrepreneurial skills even if one would not have entrepreneurial intentions. Hence, we assume that a similar mechanism takes place concerning entrepreneurial potential, and that having an entrepreneurial role model has a positive effect on entrepreneurial potential. Thus, we hypothesize that:

H1: Role models have a positive effect on entrepreneurial potential.

2.3. Informal individual-level institutional determinants: Fear of failure

Contrary to having a role model, an opposite informal institutional force is generated by perceived fear of failure. In addition to legal and financial consequences of entrepreneurial failure, its social consequences, such as stigma of failure, may hinder entrepreneurial career (Bosma et al., 2018; Vaillant and Lafuente, 2007). Decisions on not engaging in entrepreneurship can relate to perceived uncertainty and having doubts about the future (Bylund and McCaffrey, 2017) or individual-level willingness to bear and take risks (financial, time, reputation) (Brockhaus, 1982). Recent research suggests that fear of failure has a negative effect on both opportunity- and necessity-based entrepreneurial motivations (Amorós et al., 2019) and uncertainty avoidance can even inhibit entrepreneurs' growth aspirations (Bowen and De Clercq, 2008). These aspects can lower the perceived credibility and desirability of entrepreneurship among individuals, and accordingly, impede entrepreneurial potential (Krueger and Brazeal, 1994). Even expecting the possibility of not being able to make it can hinder the entrepreneurial intentions and prevent individuals from trying to start their businesses (Carsrud and Brännback, 2011). Accordingly, we assume that fear of failure can hinder the entrepreneurial potential to prosper. Thus, we hypothesize that:

H2: Fear of failure has a negative effect on entrepreneurial potential.

2.4. Informal country-level institutional determinants: Media coverage

In addition to individual-level determinants, we assess the role of country-level informal institutional arrangements in entrepreneurial potential. Krueger et al. (2013) state that a supportive cultural setting supports the legitimacy, value, and recognition of entrepreneurship. As media both creates and transmits culture (Nicholson and Anderson, 2005), it also shapes the image of entrepreneurs in the media. For instance, positive media coverage of certain industry generates institutional capital that benefits entrepreneurs of that particular industry through better access to resources (Lounsbury and Glynn, 2001). However, the media coverage of entrepreneurs is shaped by cultural norms and expectations (Anderson and Warren, 2011), and hence, media visibility can create a biased vision (Nicholson and Anderson, 2005; Suárez et al., 2020) or give a less enlightened picture of entrepreneurship. For instance, Henderson and Robertson (1999) found that outside of extremely successful entrepreneurs, such as Richard Branson and Anita Roddick, young adults recognized only fabricated personas from TV-shows. These findings imply that media has a key role in modifying opinions on and highlighting the symbols of entrepreneurship. Reynolds, Hay, and Camp (1999) highlighted that at the level of symbols, rituals, and heroes, stories in the media about successful entrepreneurs indicate an entrepreneurial culture in a country. Hence, the entrepreneurial norms and values can be shaped through presenting a favorable impression of entrepreneurship through the media (Verheul et al., 2002). Following this, Laguía and Moriano (2019) found that media coverage of entrepreneurship enhances individuals' entrepreneurial self-efficacy. Hence, we assume that a similar relationship concerns the entrepreneurial potential, and we hypothesize that:

H3: Country-level media coverage of entrepreneurship has a positive effect on entrepreneurial potential.

2.5. Informal country-level institutional determinants: Entrepreneurial alertness

Similar to the support delivered via media, the likelihood of entrepreneurial activity has also been associated with the "availability of opportunities" in the environment (Shane and Venkataram, 2000; Simón-Moya et al., 2014). Tang (2008), for example, suggests that environmental munificence explains the social capacity to gain alertness and identify opportunities for entrepreneurship. Hence, having a confidence about a potential business opportunity increases chances for entrepreneurship (Dimov, 2010; Urban, 2020). We augment this view by assessing how aggregated entrepreneurial alertness—having a perception of a convenient opportunity to launch a business (Baron, 2006)—determines entrepreneurial potential across countries. At the country-level, this kind of entrepreneurial alertness partially entails the perceived feasibility of entrepreneurship (Krueger et al., 2000) by increasing the beliefs in the capability of individuals' becoming an entrepreneur. Even if these beliefs primarily shape the entrepreneurial potential (Krueger and Brazeal, 1994), the entrepreneurial alertness can later translate into entrepreneurial actions (Dimov, 2011). Empirical assessments show that alertness to entrepreneurial opportunities increases the engagement in entrepreneurship and innovation (Edelman and Yli–Renko, 2010; Fuentes Fuentes et al., 2010; Levasseur et al., 2020). Accordingly, we assume that country-level entrepreneurial alertness enhances entrepreneurial potential, and we hypothesize that:

H4: Country-level entrepreneurial alertness has a positive effect on entrepreneurial potential.

2.6. Multilevel moderation effects between individual- and country-level institutional determinants: The role of media coverage

Due to the deeply embedded nature of informal institutions (North, 1990), we assume that there are multilevel effects through which informal country-level institutional arrangements moderate the

relationships between individual-level institutional forces and entrepreneurial potential. Arafat and Saleem (2017) recognized the importance of interactions between the different levels of determinants of entrepreneurial intentions and claimed that "future research should investigate these with the addition of some other variables like, role model, public media attention, family background, etc." (Arafat and Saleem, 2017, p. 10). In this study, we address these aspects in relation to entrepreneurial potential.

Hindle and Klyver (2007) found that media coverage has a strong correlation with early-stage entrepreneurs, who may not have achieved the socialization process characterized by engagement with role models. These authors assert that "… stories on successful entrepreneurs are useful because they create role models stimulating people in the society to imitate" (Hindle and Klyver, 2007, p. 229). The visibility of successful entrepreneurs and the ways through which they publicly establish their identity and legitimacy may shape the entire cultural aspects on entrepreneurship (Lounsbury and Glynn, 2001, Nicholson and Anderson, 2005). Similar examples, such as Silicon Valley as an entrepreneurial area, show that the coverage of entrepreneurs and their fame can influence entrepreneurial thoughts (Saxenian, 2002) even if individuals would not have close ties to a role model. Moreover, Audretsch and Lehmann (2016) have discussed how Germany has succeeded in attracting people to start new businesses by creating stories and example of an environment of opportunities that may replace the lack of role models. Recent research notes that media coverage on entrepreneurship contains information about socially desirable behavior of entrepreneurs (Achtenhagen and Welter, 2011). Laguía and Moriano (2019) detail that perceived social legitimacy of entrepreneurship in the media increases the perceived entrepreneurial self-efficacy more than entrepreneurial attitudes. In this sense, the media coverage of entrepreneurs can compensate the lack of other possible determinants of entrepreneurial potential, such as lack of role models.

Despite entrepreneurship being a fashionable phenomenon, Baker, Aldrich, and Nina (1997) have argued that entrepreneurial activity carries a high percentage of risk and effort that is not always recognized in media. Hence, for instance, the fear of not being able to fulfill the image of "right kind of entrepreneur" that media transmits (Achtenhagen and Welter, 2011) might hinder the entrepreneurial potential. Entrepreneurship, as a process of harnessing uncertainty (Packard et al., 2017), may shape the perceptions of entrepreneurial action as something fearful and prone for failure, and this may also hold back the entrepreneurial potential. This might hold true even if would-be entrepreneurs would have role models to encourage their decisions. In this regard, fear of failure may predominate over any attempt of communicating entrepreneurial success in media. Thus, the echo of positive media coverage of entrepreneurship may be mitigated by the existing fear of failure at the country-level. Based on these both aspects presented above, we hypothesize the following two moderating multilevel relationships:

H5: Country-level media coverage of entrepreneurship positively moderates the relationship between having a role model and entrepreneurial potential.

H6: Country-level media coverage of entrepreneurship negatively moderates the relationship between perceived fear of failure and entrepreneurial potential.

2.7. Multilevel moderation effects between individual- and country-level institutional determinants: The role of entrepreneurial alertness

Individuals' interpretation of an opportunity gives meaning to available information, which shapes the entrepreneurial potential and later will potentially explain entrepreneurial action (Barreto, 2012; Packard, 2017). Previous research suggests that having peers to support the entrepreneurial aspirations or an idea of an entrepreneurial role model will boost individuals' entrepreneurial intentions (Chlosta et al., 2012; Hoffman et al., 2015; Patuelli et al., 2020). Hence, if also the country-level cognitive framework supports the entrepreneurial alertness, both entrepreneurial alertness and role model enhance the entrepreneurship in a country (Aidis et al., 2008). We assume that similar multilevel mechanism also concerns the entrepreneurial potential across countries. Accordingly, we assume that country-level entrepreneurial alertness positively interacts with the relationship between having a role model and entrepreneurial potential.

Concerning fear of failure and entrepreneurial alertness, Hindle and Klyver (2007) show that even in the presence of alertness, media coverage, and similar determinants, fear of failure negatively affects the attractiveness of entrepreneurship. Thus, the informal institutional setting influences individuals' assessment of risk, which reflects how individuals interpret their surroundings. Hence, entrepreneurial potential is influenced by information bias about business success, and for instance, young entrepreneurs are often associated with high risk (McGowan et al., 2015). A country-level cognitive framework of entrepreneurial alertness interacts with the negative influence of fear of failure on entrepreneurial potential. Accordingly, based on the above we hypothesize the following two moderating relationships:

H7: Country-level entrepreneurial alertness positively moderates the relationship between having a role model and entrepreneurial potential.

H8: Country-level entrepreneurial alertness negatively moderates the relationship between fear of failure and entrepreneurial potential.

Figure 1 shows our proposed theoretical model.

3. Materials and methods

3.1. Data

We test our hypotheses with a dataset that combines two data sources. Using individual data from the Global Entrepreneurship Monitor (GEM) in the period 2006–2016, we have assessed the influence of institutions on entrepreneurial potential. The GEM study gathers cross-sectional information on entrepreneurship over the years and covers most of the countries (Bosma, 2013). In particular, the Adult Population Survey data in the GEM study include representative harmonized cross-country samples of randomly selected working-aged adults (18–64 years old) (Reynolds et al., 2005). Initially, we had a sample of 1,464,175 individuals from 77 countries. Only 880,576 individuals were manifesting to have the abilities and skills to start a new business. From this subsample, we analyze those individuals with and without intentions to start a new venture and the possible institutional determinants of moving from one decision to another. This is consistent with Von Graevenitz et al. (2010) and Zhao et al. (2005), who discuss the rapid growth of population with entrepreneurial skills thanks to education programs and experience. These data were augmented with information from the World Bank Group's World Development Indicators (WDI) and Doing Business report.

3.2. Variables

Dependent Variable. We use two of GEM's items to measure entrepreneurial potential. We categorize respondents as entrepreneurial potential if they had a preference to start a business within three years and if they perceived that they had the necessary skills and knowledge to start a business, but had not yet engaged in entrepreneurship. In our dummy variable, these people were given the value of "1". In case of perceiving having skills and knowledge to start a business, but having no preferences to start a business, respondents were given the value of "0". Based on this definition, in our sample, 23.4% of respondents fall into the category of entrepreneurial potential. Although we have not found studies with the same variable, Schmutzler et al. (2019) and Tsai, Chang, and Peng (2016), among others, have recently employed GEM data to examine the intention of individuals to create a new venture in the near future. This evidence may suggest that this approach to entrepreneurial desire and perception of self-efficacy is accurate.

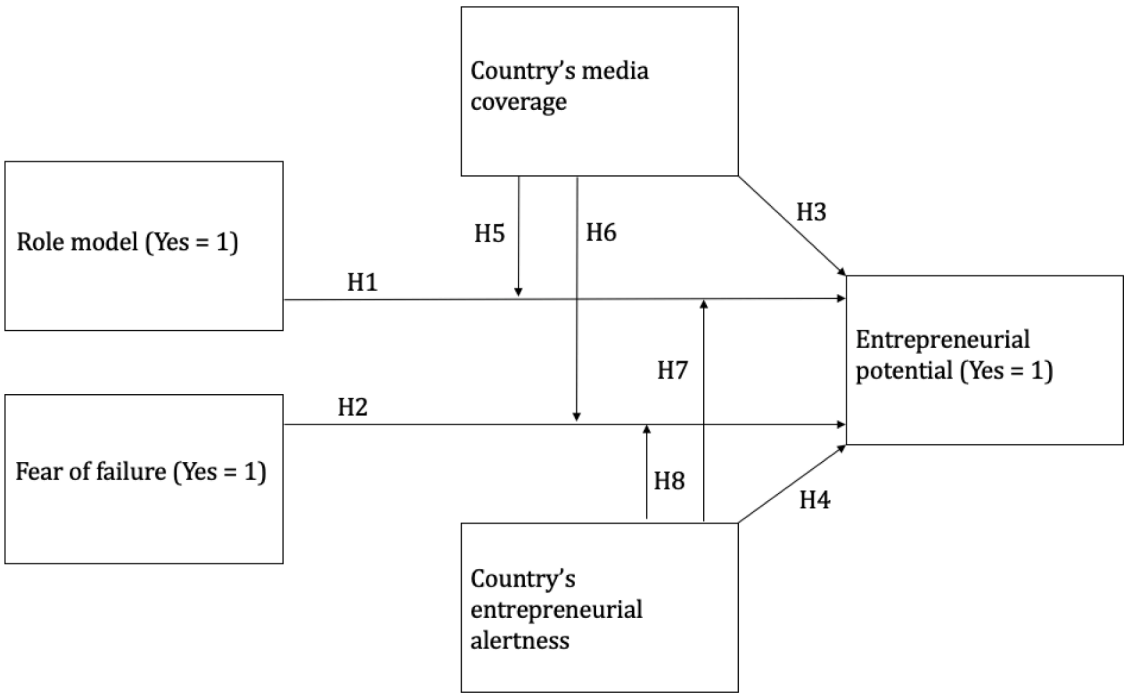

Figure 1. Theoretical model.

Individual- and Country-level Independent Variables. The four independent variables that may explain entrepreneurial potential were also obtained from the GEM study. The first two address the individual-level institutions, and the latter two measure country-level informal institutional arrangements.

To study the respondents' exposure to entrepreneurial *role model*, we used an individual-level item showing whether the respondent personally knows someone who started a business in the previous two years (by the time of survey). This item measures close, strong ties (Hoffman et al., 2015), but it does not allow to extract other dimensions of role models, such as the nature of this relationship (Schmutzler et al., 2019). In this case, the value of "1" represents that the individual has a role model; "0" otherwise.

Another individual-level independent variable is *fear of failure*, which addresses the perceptions of being afraid of failure and risk aversion that would prevent the respondent from starting a business. Similar to role model, fear of failure is a dummy variable that takes the value of "1" if the respondent perceives of having a fear of failure, and value of "0" if she or he thinks otherwise. Extant literature has used this variable as an antecedent of entrepreneurship (Bosma et al., 2018; Vaillant and Lafuente, 2007; Wennberg et al., 2013) and entrepreneurial intentions (Schmutzler et al., 2019; Tsai et al., 2016).

Concerning the country-level informal institutions, we measure *media coverage* as the percentage of individuals in a given economy who believe there is enough coverage about successful entrepreneurs in newspapers, television advertisements, etc. Authors, such as Stenholm et al. (2013) and Hindle and Klyver (2007), have explored this type of variable to explain entrepreneurial activity. Similarly, Bacq, Hartog, and Hoogendoorn (2016) employ this variable in studying entrepreneurial intentions across countries. However, this measure does not allow to assess the role of the concurrent borderless media sources, such as how social media, YouTube, podcasts, and digital platforms in general (Srinivasan and Venkatraman, 2018), in entrepreneurial potential or in entrepreneurship in general, and hence, this deficiency serves as a potential for future research.

Our final country-level informal institutional determinant, *entrepreneurial alertness*, is measured with a GEM-item, which shows the percentage of individuals who believe that there will be good opportunities for starting a new business in the next six months. This variable is known in entrepreneurship research, as there is a vast number of papers assessing its relevance for entrepreneurial activity (Aparicio et al., 2016; Tang, 2008), entrepreneurs' growth aspirations (Bosma et al., 2018; Stenholm et al., 2013), and entrepreneurial intentions (Schmutzler et al., 2019). By following Bosma and Sternberg (2014) and Obschonka, Schmitt-Rodermun, Silbereisen, Gosling, and Potter (2013), we have created both media coverage and entrepreneurial alertness by computing the average value of those individuals identifying that there is media coverage and alertness.

Control Variables. At the individual-level, previous research suggests that gender influences individuals' career choices and entrepreneurial desires (BarNir et al., 2011). Accordingly, we controlled our analyses for gender of the respondent (value of "1"=male, "0"=female). In our sample 46% of the studied individuals are males.

Previous results imply that age might influence the relationship between having a role model and entrepreneurial activities; younger individuals have a more positive societal valuation of entrepreneurial role models (Lafuente and Vaillant, 2013). Similarly, individuals' age has an influence on entrepreneurial entry (Bosma et al., 2009; Brieger et al., 2020). Accordingly, we adjusted the analyses for age as well as for the mean-squared age term in to order control for the possible curvilinear effects of age.

Different authors suggest that the preferences for entrepreneurship are heavily tied to level of education (Aragon-Mendoza et al., 2016). Thus, with regards to human capital, we controlled the analyses for the education of the respondents. We used two levels of education, high school and university degrees. The former was measured with a dummy variable in which high school had the value of "1" (the value of "0", if otherwise). The latter was controlled for with a dummy variable in which university degree had the value of "1", and those without this degree took the value of "0".

Country-level economic and demographic variables are important for controlling entrepreneurial intentions, activity, and growth (Arin et al., 2015). As our sample covers a heterogeneous number of countries, the country-level differences should be captured. For example, state capacity, size of the economy, national productivity, and the country-level entrepreneurial state are some of the factors that we need

to consider (Acs et al., 2014; Audretsch, 2007). In doing so, we control the analyses for the gross domestic product using purchasing power parity rates (GDPppp) and the employment rate of a country's population. Data for these items were retrieved from World Bank's World Development Indicators. To adjust our analyses for whether a country has a high or low level of entrepreneurial activity, we include the total early-stage entrepreneurial activity (TEA) at the country-level. This GEM-based variable measures the percentage of individuals involved in any entrepreneurial activity at early stage. Other demographic and institutional controls include population, which encompasses all residents, regardless of legal status or citizenship; and the minimum capital to start a business, which is the payment needed to register a new business (% of income per capita). Data for these variables were gathered from World Bank's World Development Indicators and Ease of Doing Business Index.

3.3. Data analysis

In testing the hypotheses, we employ a multi-level hierarchical linear modeling, as we are working with data from individuals, which are grouped and clustered by country. Our analytical approach is similar to De Clercq, Lim, and Oh's (2013) and Schmutzler et al.'s (2019) recent studies. This type of technique has served to perform comparisons that go beyond single-level designs. In particular, multilevel models overcome the assumption in which independence of observations in grouped data exists. For our purposes, this enabled us to acknowledge that country-level characteristics influence entrepreneurial potential and the relationship this variable has with its antecedents at the individual level (Schmutzler et al., 2019). Furthermore, multilevel modeling allows for a systematic analysis of the influence different variables operating at multiple levels have on entrepreneurial potential, as well as their cross-level interactions (Peterson et al., 2012). In this regard, multilevel random coefficients models offer a correction that enables variation of variables across groups (i.e., countries), which is different from fixed or random effects models in conventional panel data analyses (De Clercq et al., 2013). Thus, the estimated equation is as follows:

Individual-level

$$\begin{aligned} P(EP_{i,t}=1) &= \beta_{0j} \\ &\quad + \beta_{pj}\{\text{individual-level predictors}_t\} \\ &\quad + \beta_{cj}\{\text{individual-level controls}_t\} \\ &\quad + r_{ij}. \end{aligned} \tag{1}$$

Country-level

$$\beta_{0j} = \varphi_{00} + \varphi_{01}\{\text{country-level controls}_t\} + \varepsilon_{0j}, \tag{2}$$

$$\beta_{cj} = \varphi_{p0} + \varphi_{p1}\{\text{country-level predictor}_t\} + \varphi_{p2}\{\text{country-level controls}_t\} + \varepsilon_{pj}. \tag{3}$$

where $EP_{i,t}$ is the *ith* individual with entrepreneurial potential in country *j*. For the individual level, the parameter β_{0j} represents the effect of each individual—hierarchically nested in a specific country—on the probability of being an individual with entrepreneurial potential. Those parameters, represented by β_{pj} and β_{cj}, are the individual-level variables in Model 1. The coefficient φ_{00} is the constant term, which aggregates all the intercepts across countries; whereas φ_{p0} aggregates the slopes across countries. In particular, φ_{01} represents the parameters for country-level control variables in Model 1; while, φ_{p1} and φ_{p2} represent independent and control cross-level variables in all models. Both individual- and country-level residuals allow us to account for random characteristics. Therefore, the parameter r_{ij} represents the individual-level residuals, while ε_{0j} and ε_{pj} represent country-level ones. Overall, country-level characteristics frame individual-level effects on the probability of becoming an individual with entrepreneurial potential.

4. Results

Table 1 provides means, standard deviations, and pairwise correlation coefficients for the variables we studied. As it was discussed above, our sample allows us to observe that 23.4% of individuals are entrepreneurial potential. This variable is correlated with all predictors (Table 1), which met our expectations on what possible associations exist between the dependent and explanatory variables. Given the significant number of variables included in our model, certain issues may exist. In this regard, a multicollinearity diagnostic test showed that all the variance inflation factor (*VIF*) scores are below 5.53, which is below 10 (as an accepted threshold), indicating that multicollinearity is not a problem in the analysis (Hsieh et al., 2003).

As we are estimating discrete choice models following a hierarchical structure, Table 2 shows the odd ratio results for all models. Our empirical strategy consisted of testing the main effects of all models by first considering the direct effects of informal institutions at individual-level (Model 1), country-level (Model 2), and both (Model 3) on entrepreneurial potential (testing the hypotheses H1, H2, H3, and H4). Second, we perform a set of models that only considers the direct effect of informal institutions on entrepreneurial potential, which is conditioned by country-level informal institutions (media coverage in Model 4 and entrepreneurial alertness in Model 5). The following two models, although they are similar to the previous ones, include informal institutions at both the individual- and country-level, as well as interaction terms (media coverage in Model 6 and entrepreneurial alertness in Model 7). Finally, Model 8 assesses all independent and interaction variables explaining entrepreneurial potential. All of our models were counted with the control variables at both the individual- and country-levels. Based on the results (Table 2), the conjoint significant results show that all variables explain the probability of entrepreneurial potential ($p<0.001$).

Since entrepreneurial decisions are embedded in country-level variations, it is important to test for inter-class correlation (Meyer et al., 2017). To assess the country-level variation we computed the intra-class correlation coefficient (*ICC*), which is 0.118 on average for models. We also computed this test for a null model that only considers control variables (this model is not reported in Table 2 but can be provided). The *ICC* obtained for this model was 0.134, which implies that 13.4% of the overall variance is derived from the influence of institutions at the country-level. These results suggest that our results have more country-level variation than the cross-country comparisons typically have, on average (about 10%) (Fischer and Schwartz, 2011).

Our results show that having an entrepreneurial role model enhances entrepreneurial potential. This supports our hypothesis H1. To have an entrepreneurial role model increases the odds of entrepreneurial potential 8.3 ($p<0.001$; Model 8, Table 2) times more than in case of having no role model. These results are in line with Bosma et al. (2012), who found that role models may have a high level of influence on those people receiving education about entrepreneurship. Similarly, Hoffman et al. (2015) emphasized the benefit that (entrepreneurial) families bring for individuals in a learning process.

In hypothesis H2, we assumed that fear of failure would hinder entrepreneurial potential. Our results show that the odds of entrepreneurial potential are lower for those who have perceived fear of failure. This supports our hypothesis H2 ($OR=0.515$, $p<0.001$; Model 8, Table 2). Extant literature is somehow conclusive when analyzing fear of failure and entrepreneurial process. For example, Giacomin, Janssen, Pruett, Shinnar, Llopis, and Toney (2011) show that fear of failure is a barrier that affects entrepreneurial intentions across countries. Regardless of the motivation, the individual decision to enter into a market with a new venture is negatively affected by fear of failure (Amorós et al., 2019).

In addition to these individual-level relationships, we assumed that country-level informal institutional arrangements influence the entrepreneurial potential. Our results suggest that the media coverage of

Table 1
Descriptive statistics and correlation matrix.

	Variables	Mean	Std. Dev.	1	2	3	4	5	6
1	Entrepreneurial potential	0.234	0.423	1					
2	Role model	0.296	0.457	**0.351**	1				
3	Fear of failure	0.371	0.483	**-0.121**	**0.010**	1			
4	Media coverage	0.467	0.184	**0.164**	**0.066**	**0.004**	1		
5	Entrepreneurial alertness	0.284	0.154	**0.379**	**0.176**	**-0.038**	**0.338**	1	
6	Gender	0.462	0.499	**0.135**	**0.094**	**-0.059**	**0.013**	**0.024**	1
7	Age	41.550	14.901	**-0.180**	**-0.150**	**-0.008**	**-0.036**	**-0.127**	**-0.0559**
8	High school	0.264	0.441	**0.034**	**0.051**	0.000	**0.022**	**-0.026**	**0.0093**
9	University	0.074	0.261	-0.002	**0.031**	**-0.007**	**-0.047**	**-0.046**	**0.0061**
10	GDP ppp (USD1000)	698000000	2360000000	**-0.043**	**0.012**	**0.020**	**0.082**	**0.013**	0.0013
11	Employment level	24.873	24.473	**0.064**	**0.061**	**0.046**	**0.213**	**0.277**	**0.0115**
12	Country's TEA	0.087	0.082	**0.436**	**0.183**	**-0.076**	**0.292**	**0.766**	**0.0277**
13	Population (1000)	45500	190000	**-0.017**	**0.029**	0.001	**0.079**	**0.018**	0.0031
14	Min. capital to start a business	18.117	35.623	**0.004**	**0.026**	**-0.039**	**-0.167**	**-0.046**	**0.0157**
	Variables	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
7	Age	1							
8	High school	**-0.038**	1						
9	University	0.001	**-0.169**	1					
10	GDP ppp (USD1000)	**0.006**	**0.036**	**-0.025**	1				
11	Employment level	**-0.028**	**0.045**	**-0.059**	**0.390**	1			
12	Country's TEA	**-0.153**	**-0.059**	**-0.072**	**-0.030**	**0.186**	1		
13	Population (1000)	**-0.031**	**0.007**	**-0.046**	**0.786**	**0.316**	**0.020**	1	
14	Min. capital to start a business	**-0.034**	**-0.009**	**0.017**	**-0.007**	**-0.021**	**0.008**	**0.134**	1

Results in bold mean a significant correlation at $p < 0.001$. Note: Std. Dev. Standard deviation.

entrepreneurship enhances the entrepreneurial potential. Accordingly, our hypothesis H3 is supported (OR=2.358, p<0.001; Model 8, Table 2). Our findings are consistent with Krueger et al.'s (2013) idea about the importance of culture for entrepreneurship as a career. Within the wide spectrum of culture scholars, such as Stenholm et al. (2013) and Smith and Viceisza (2018), have shown how an entrepreneurial social image and media attention encourage other people to pursuing similar objectives in terms of entrepreneurship.

In the hypothesis H4 we assumed that a country's entrepreneurial potential would benefit from increased country-level entrepreneurial alertness. Our results show that alertness increases the entrepreneurial potential 6.638 (p<0.001) times more likely compared to low levels of alertness. Thus, our hypothesis H4 is supported. Dimov (2010) shows that the opportunity identification is part of the creative process when (potential) entrepreneurs decide to create and grow a new firm.

In addition to the direct effects, we hypothesized multilevel interaction effects that might moderate the influence of role model and fear of failure on entrepreneurial potential (Table 2). In order to investigate the nature of the interaction between role model, fear of failure, and the moderating variables of media coverage and entrepreneurial alertness, their relationship was plotted on entrepreneurial potential for high and low levels of the effects of the moderating variables (cf. Frazier et al., 2004).

First, we proposed that country-level media coverage of entrepreneurship would moderate the influence of having an entrepreneurial role model on entrepreneurial potential. Our results show that media coverage exerts a higher strength on those skilled potential entrepreneurs characterized by not having any role model (p<0.001, Figure 2a), which supports hypothesis H5. The effect of media coverage for those who have a role model is 0.895 times higher than among those who do not have any role model. One might think that media attention on entrepreneurship creates an artificial role model for those people with any entrepreneurial reference point (Hindle and Klyver, 2007).

Although Model 8 shows that this interaction is non-significant, Models 4 (p<0.001) and 6 (p<0.001) show that media coverage reaches 83.6% and 76.8%, respectively, of those who are characterized as having some fear of failure, compared to those who are not afraid of failure (Table 2). Interestingly, even higher levels of media attention given for entrepreneurship does not seem to hold back the negative effect of being afraid of failure on entrepreneurial potential. However, in the full version of Model 8, the interaction term is not statistically significant. Accordingly, H6 is not supported.

In hypothesis H7, we proposed that country-level entrepreneurial alertness exerts a higher level of strength on entrepreneurial potential when it is characterized by not having any role model. Our results indicate that the effect of entrepreneurial alertness for those who have a role model is 0.215 times the effect of alertness for those who do not have a role model (p<0.001, Figure 2c). Country-level entrepreneurial alertness affects only 21.5% of those who have a role model, and having a role model shows a strong influence when alertness is low (Audretsch and Lehmann, 2016). Accordingly, our hypothesis H7 is supported. Interestingly, in the case of having no role model, country-level entrepreneurial alertness enhances entrepreneurial potential.

Our results also show that entrepreneurial alertness has a lower influence on entrepreneurial potential when the fear of failure is high (Figure 2d). The effect of country-level alertness for those who feel fear of failure is 0.397 times the effect of entrepreneurial alertness for those who do not have fear of failure (p<0.001). This supports our hypothesis H8. The results show that fear of failure mitigates the effect of country-level entrepreneurial alertness. Similar to McGowan and the others (2015), the propensity of entrepreneurial potential decreases when people are intolerant to high risk. However, when the fear of failure is low, the role of country-level entrepreneurial alertness increases the entrepreneurial potential.

5. Discussion and conclusions

In this study we address the less-investigated phenomenon of entrepreneurial potential, which is defined as the non-entrepreneurial population who perceive that they have the necessary skills to engage in entrepreneurship. Recent research suggests the pertinence of supportive initiatives that seek to improve standards of living through entrepreneurship (Acs et al., 2016; Aparicio et al., 2016). These initiatives produce individuals who are equipped with necessary knowledge and skills related to entrepreneurship (Von Graevenitz et al., 2010). Intriguingly, a number of people in this entrepreneurially skillful population lack the motivation to engage in entrepreneurship. Hence, we explored the multilevel determinants of entrepreneurial potential by drawing from an institutional economics framework (North, 1990; North, 2005). Our focus was on informal institutions, social norms, and cognitive scripts, as they set the way humans behave (Bruton et al., 2010).

Table 2
Odds ratio results on entrepreneurial potential.

	(1) Entrepreneurial potential	(2) Entrepreneurial potential	(3) Entrepreneurial potential	(4) Entrepreneurial potential	(5) Entrepreneurial potential	(6) Entrepreneurial potential	(7) Entrepreneurial potential	(8) Entrepreneurial potential
Role model	4.844***		4.825***	6.660***	8.009***	6.606***	7.992***	8.303***
	(0.037)		(0.037)	(0.139)	(0.137)	(0.138)	(0.137)	(0.184)
Fear of failure	0.497***		0.495***	0.588***	0.630***	0.681***	0.630***	0.515***
	(0.004)		(0.004)	(0.012)	(0.011)	(0.015)	(0.011)	(0.011)
Country's media coverage		1.493***	1.467***	2.014***		1.368***	1.444***	2.358***
		(0.042)	(0.044)	(0.062)		(0.043)	(0.043)	(0.086)
Country's entrepreneurial alertness		3.178***	2.613***		7.093***	2.566***	6.337***	6.638***
		(0.203)	(0.176)		(0.504)	(0.174)	(0.455)	(0.484)
Role model x Media				0.521***		0.526***		0.895***
				(0.021)		(0.021)		(0.038)
Fear failure x Media				0.836***		0.768***		0.958
				(0.033)		(0.033)		(0.039)
Role model x Alertness					0.203***		0.205***	0.215***
					(0.010)		(0.010)	(0.011)
Fear failure x Alertness					0.473***		0.475***	0.397***
					(0.023)		(0.023)	(0.021)
Gender	1.834***	2.052***	1.834***	1.834***	1.833***	1.833***	1.833***	1.833***
	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Age	1.122***	1.120***	1.123***	1.122***	1.122***	1.122***	1.123***	1.123***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Age^2	0.998***	0.998***	0.998***	0.998***	0.998***	0.998***	0.998***	0.998***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
High school	1.366***	1.540***	1.366***	1.366***	1.370***	1.367***	1.369***	1.369***
	(0.012)	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
University	1.520***	1.772***	1.508***	1.514***	1.514***	1.508***	1.509***	1.509***
	(0.022)	(0.024)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
GDP ppp	1.000***	1.000	1.000	1.000*	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Employment level	1.000	0.999	1.002*	1.003*	1.001	1.002*	1.003**	1.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Country's TEA	1362.558***	333.400***	421.293***	870.749***	487.373***	399.415***	392.927***	388.005***
	(205.700)	(51.213)	(68.610)	(133.259)	(78.451)	(64.979)	(63.670)	(62.892)
Population	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***	1.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Min. capital to start a business	0.997***	0.998***	0.997***	0.997***	0.997***	0.998***	0.998***	0.998***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Number of observations	670539	670539	670539	670539	670539	670539	670539	670539
Number of groups	77	77	77	77	77	77	77	77
Interclass correlation (ICC)	0.123	0.121	0.116	0.128	0.111	0.116	0.115	0.115
Degrees of freedom	20	20	22	23	23	24	24	26
Prob. $< X^2$	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Log Likelihood	-247208.45	-273346.03	-246994.80	-246958.71	-246368.69	-246861.7	-246291.43	-246258.14
Year fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors in parentheses.

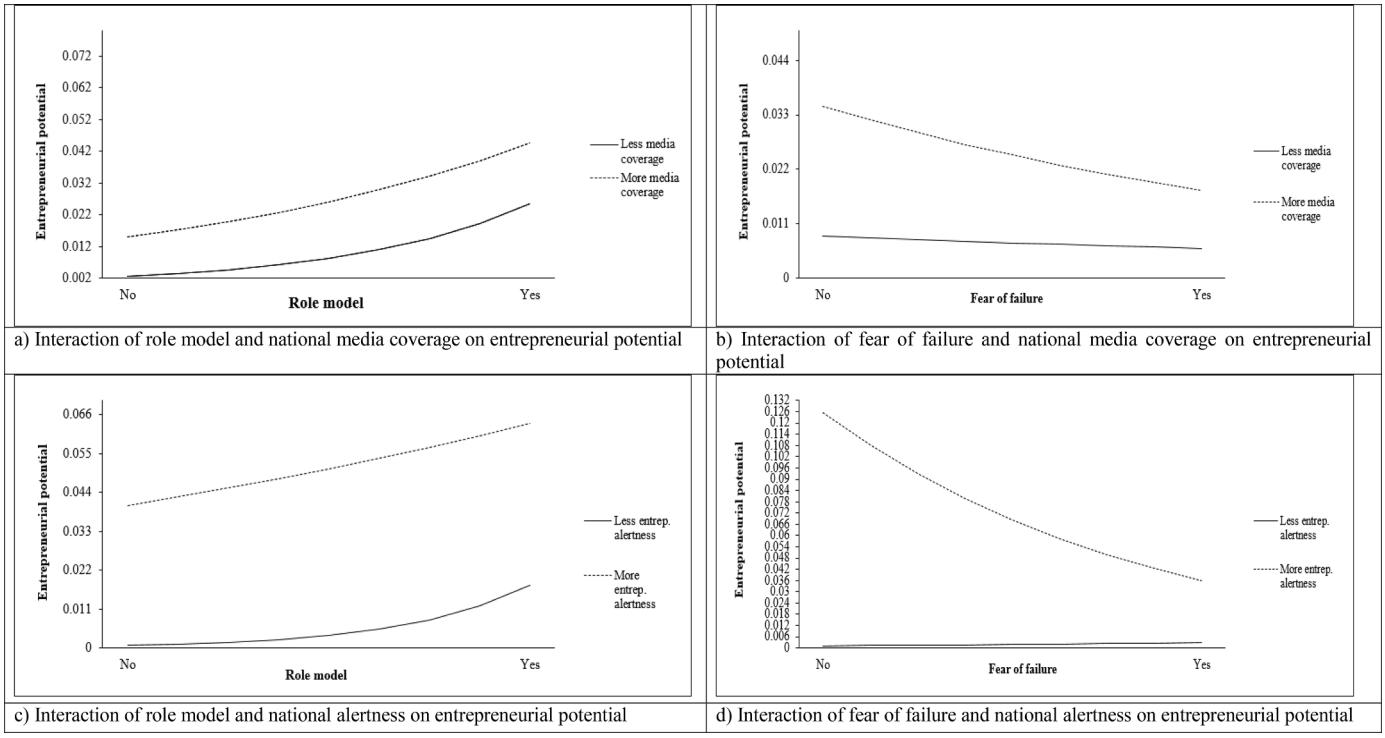

Figure 2. Multilevel effects of institutions on entrepreneurial potential.

Our findings highlight the importance of having entrepreneurial role models. This sort of informal institutional setting may not only affect entrepreneurship (Lindquist et al., 2015), but role models also enhance the entrepreneurial potential in a country. More importantly, our findings show how the influence of having role models on entrepreneurial potential is positively moderated by the media attention given on entrepreneurship. Although there exists a consensus on the idea that "entrepreneurs are made, not born" (Krueger and Brazeal, 1994, p. 102), previous research shows that role models can function as sources from which (potential) entrepreneurs can take a reference point for their own career (Bosma et al., 2012; Wyrwich et al., 2016). Media coverage on entrepreneurship is an appropriate vehicle for spreading information, and people might be tempted to repeat what they watch and hear on TV, radio, newspapers, public events, and even on social media. For instance, for entrepreneurial potential some TV programs related to fund-raising (Smith and Viceisza, 2018) can provide examples to follow and boost the perceived legitimacy of entrepreneurship (Laguía and Moriano, 2019). Our findings show that when people who do not have an explicit role model, these kinds of media coverages increase their entrepreneurial potential. In this regard, societies in which media covers vibrant examples of successful entrepreneurs, there would be more incentives for those with entrepreneurial potential to think about entrepreneurial career choice.

Our findings also suggest that the country-level entrepreneurial alertness positively moderates the relationship between having a role model and entrepreneurial potential. At the country-level entrepreneurial alertness functions as a cognitive resource, which may guide individuals to identify, analyze, and use entrepreneurial opportunities (Ployhart and Moliterno, 2011; Stenholm et al., 2013). This implies that the country-level alertness can be formed upon micro-foundations of individuals' human capital (Davidsson and Honig, 2003), which is useful for increasing entrepreneurial potential. The changes in alertness, in a country-level human capital, can be influenced through education and through labor market experience (Korosteleva and Belitski, 2017). Within the educational system, Urbano et al. (2017) found that entrepreneurs' social image increases students' probability of becoming entrepreneurs. Stenholm et al. (2013) show that alertness, as part of human capital, not only affects people's intention of becoming an entrepreneur, but also the type of their entrepreneurial activity.

Moreover, our findings on the influence of fear of failure mitigates on entrepreneurial potential suggest that perceived fear of failure impedes entrepreneurial potential. Its almost non-penetrable negative influence on entrepreneurial potential holds true, even if entrepreneurship would be given high media coverage or even if the country-level entrepreneurial alertness is high. Hence, the propensity of entrepreneurial potential is lowered when people are intolerant to high risk (McGowan et al., 2015), and this remains strong despite the multilevel determinants of entrepreneurial potential would be elevated. Hence, our findings are in line with Wennberg et al. (2013), who found that institutional collectivism favors those who are not afraid of failing. However, extant evidence analyzing entrepreneurship during (González-Pernía et al., 2018) or after a crisis (Urbano et al., 2017) suggests that the perceptions of possible failure affect decisions on entrepreneurship, and as our findings indicate that fear of failure may demotivate people and lower their entrepreneurial potential.

5.1. *Theoretical contribution*

Our findings unveil possible informal institutional factors affecting entrepreneurial potential. This, pre-intentions phase, add a novel angle to the important scholarly endeavors on the new venture creation. For example, Krueger (2020), Krueger and Brazeal (1994), and Krueger et al. (2000), among others, have suggested that within these encountered factors, cognition processes are closely related to entrepreneurial intentions. For instance, current evidence highlights the importance of self-efficacy as part of the cognition process leading entrepreneurial intentions (cf. Schmutzler et al., 2019). We move this idea forward by showing that reaching the population that perceive of having sufficient knowledge and skills to start a new business, but lack the intentions, societies seem to have even more entrepreneurial potential, as noted before. If one is willing to increase the rate of entrepreneurship in a country, the question is how to nudge the entrepreneurial potential

towards engaging in entrepreneurship.

Our study shows that cross-country differences in entrepreneurial potential are rooted in informal institutional characteristics. Schmutzler et al. (2019) provide evidence on how institutions enhance or inhibit the association between self-efficacy and entrepreneurial intentions. Thus, our results show that it is not only entrepreneurial activity that is affected by the context (Bjørnskov and Foss, 2016; Urbano et al., 2019), but also the preceding phase, entrepreneurial potential, is shaped by the informal institutional arrangements. Our findings serve as evidence that builds upon the idea that entrepreneurial potential is linked to "potential entrepreneurs" through informal institutions at the individual- and country-level, and the interaction between them.

From an institutional perspective (North, 1990; North, 2005), societies evolve as result of different interventions, but also through the interactions between contexts of different levels. Hence, our findings and multilevel approach advance the application of institutional economics to those phases that take place before the new venture creation. Accordingly, our study also contributes to the understanding of country-level differences, which stem from social interactions and which reveal a variety of preferences regarding entrepreneurial activity and labor dynamics across countries. Importantly, our study emphasizes how these differences and informal institutions have multilevel influence on individual's perceptions.

5.2. Practical implications

By recognizing that informal institutions matter for entrepreneurial potential, different initiatives from governments could be carried out, and additionally and as importantly, it should be noted that the private sector has the potential and the ability to increase entrepreneurial potential in a country. We are confident that moving policies forward that are oriented toward (funding and supporting) entrepreneurship can direct potential entrepreneurs to participate in creating entrepreneurial societies (Audretsch, 2007; Audretsch et al., 2018). This can aid knowledge generation, and therefore, skilled people surrounded by an entrepreneurial environment can identify opportunities motivating them to consider entrepreneurship as a desirable career choice.

Similarly, our findings on the moderating role of media coverage on entrepreneurship in enhancing entrepreneurial potential suggest that private sector actors also influence the way how entrepreneurship is perceived. We therefore agree with Gurses and Ozcan (2015) and Srinivasan and Venkatraman (2018) that TV channels, radio stations, podcasts, social media, and other media are not only sources of role models, as our results suggest, but also that they bring opportunities for entrepreneurs to show up and advertise their businesses and compete in the market. For instance, some TV programs related to fund-raising (Smith and Viceisza, 2018) can provide examples to follow, as those programs reflect the way entrepreneurs identify opportunities, turn them into new products, and convince people about the value of their offerings.

Other important actors that can also contribute to entrepreneurial potential are those involved in creating human capital related to entrepreneurship. Thus, universities and high schools have properly implemented entrepreneurship programs, courses, modules, and similar activities, which prepare people to solve problems and create their own employment (Nabi et al., 2017; Westhead and Solesvik, 2016). Based on our results, the challenge is to provide students with tools to overcome their possible fear of failure and reap the advantages of knowing other people with entrepreneurial experience. Leih and Teece (2016) suggest that theoretical aspects of entrepreneurship should not be taught only in a theoretical sense, but in a way that help individuals to identify the resources and capabilities to reduce the fear of failure. In addition, our findings highlight the importance of having inspiring entrepreneurial role models as educational visitors to share their experiences concerning these aspects (Nowiński and Haddoud, 2019). Perhaps this knowledge and experience enables other aspects, such as media coverage, to counteract the negative effect of fear of failure. Universities can also act as an environment for events (e.g. seminars with successful entrepreneurs, investor fairs, etc.) (Guerrero and Urbano, 2012), which might reinforce the individual's and country's entrepreneurial characteristics (e.g. role models and alertness).

5.3. Limitations and future research

Although our findings unfold important novel information about the multilevel influence of informal institutions on entrepreneurial potential, our analysis still relies on a combination self-assessment of people's perceptions. However, following Von Graevenitz et al. (2010) and Zhao et al. (2005), these assumptions might be realistic, as a population does not necessarily gain entrepreneurial skills from education, but these skills can develop through experience and from personal and social characteristics. Further developments in this line of research should consider categories that depart, not from skilled people, but from the entire population. For instance, discrete choice models with more than two categories may enable to understand why people with non-entrepreneurial skills and non-entrepreneurial intentions decide to become an (skilled or non-skilled) entrepreneur. Similar analyses have been conducted (cf. Liñán et al., 2011), though they use only a binary approach of the phenomenon, and hence, using multiple categories may enable researchers to overcome possible selection biases.

Our approach uses media coverage based on the acknowledged and widely recognized GEM's measure (Stephan and Uhlaner, 2010), which supports the idea that in many countries, still, the national traditional media broadcasts entrepreneurship-related content. However, this or any other concurrent measure do not cover the role of borderless media, such as social media, YouTube, podcasts, and online streamed events and context, in providing content on entrepreneurship and in influencing entrepreneurial potential or entrepreneurship across countries. Recent research has addressed how entrepreneurs use and benefit from using social media (Olanrewaju et al., 2020), but investigating the role of social media as an informal institutional arrangement shaping the desirability of entrepreneurial career and self-efficacy of potential entrepreneurs serves as a potential for future research.

Another limitation concerns the nature of our data, which do not allow longitudinal analyses. Longitudinal multilevel data would enable to consider time variations by introducing time fixed-effects at the country level. According to Aparicio et al. (2016) and Bosma et al. (2018), this sort of specification enables the capture of institutional trends that affect entrepreneurial potential, but conducing similar multilevel analysis would open up novel insights. Thus, future research with a similar empirical strategy and dataset might be interesting for running pseudo panel models in order to consider dynamism in the institutional environment when estimating entrepreneurial potential. In addition, longitudinal research design would enable to unfold how entrepreneurial potential could be nudged towards entrepreneurial behavior.

Finally, a national analysis would open up other aspects that take place in particular regions compared to lagged ones. In this case, different arrangements could be identified. For instance, depending on the country, some regional policies are more devoted to create systems of entrepreneurship and innovation (Acs et al., 2015), while others try to increase entrepreneurial activities as a net result (Arshed et al., 2014). Future research might consider different controls at the regional level, which might serve to capture unobservable information that characterizes cities or regions.

In conclusion, our study has shed light on the previously less-explored relationships between informal individual- and country-level institutional arrangements and the entrepreneurial potential. Our findings suggest that informal individual-level institutional arrangements have a varying, multilevel influence on the entrepreneurial potential across countries. Having an entrepreneurial role model supports the entrepreneurship potential, but informal country-level institutional

forces can compensate for the lack of individual factors among those with low entrepreneurial potential. Individuals' fear of failure, however, decreases the entrepreneurial potential, and this effect is so strong that not even informal country-level factors can shape it. Our findings highlight the essential role of informal institutional arrangements in supporting entrepreneurial potential and maybe later support its' development to actual entrepreneurial behavior.

CRediT authorship contribution statement

Sebastian Aparicio: Conceptualization, Methodology, Formal analysis, Writing – review & editing, Writing – original draft, Visualization. **David Urbano:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Pekka Stenholm:** Conceptualization, Writing – original draft, Writing – review & editing.

Acknowledgments

The authors are grateful to Prof. Meissner and anonymous reviewers for valuable comments and suggestions. This paper benefited from the presentation at the 79th Annual Meeting of the Academy of Management (Boston, USA). Sebastian Aparicio acknowledges Durham University Business School for constant support. Additionally, Sebastian acknowledges COLCIENCIAS Ph.D. programme (617/2013), as well as Sapiencia-Enlaza Mundos (Municipio de Medellín) for financial support during Ph.D. David Urbano acknowledges the financial support from the projects ECO2017-87885-P (Spanish Ministry of Economy & Competitiveness) and 2017-SGR-1056 (Economy & Knowledge Department, Catalan Government), and ICREA under ICREA Academia programme. Pekka Stenholm acknowledges the University of Turku for constant support, and the support from DISCE-project (EU-H2020-822314).

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